

REMARKS

This Response is offered in reply to the office action of September 23, 2003. A petition and fee for a one month time extension are enclosed.

In paragraph 2 of the office action, claims 1-3, 6 and 12 are rejected under 35 USC 102(b) as anticipated by the Gero US Patent 5 948 300.

Pending claim 1 is believed to distinguish over the Gero patent. For example, claim 1 now recites a metal halide coating gas generator disposed external of a coating retort wherein the generator comprises a base, a housing having a metallic charge for reaction with a halide gas to produce a metal halide coating gas in the housing, the housing having a region disposed on the base with a polymeric seal disposed between the region and the base and with the region having a fluid passage therein for cooling the region, and a heating device to heat the metallic material charge to a reaction temperature.

The Gero patent does not disclose a metal halide coating gas generator and instead discloses a silicon wafer processing tube device. The Gero patent fails to disclose generating a metal halide coating gas in the process tube 12. The Gero patent does not disclose a reaction between a metallic charge and a halide gas in the process tube 12 to generate a metal halide coating gas. The Gero patent describes an O-ring seal, but does not disclose that it is a polymeric seal. The Gero patent discloses a flange of the process tube 12 disposed on end cap 26 but there is no disclosure of a fluid passage in the flange itself for cooling the flange. The examiner refers to gas delivery lines 42, 44, but these lines 42, 44 are disposed on the exterior of the process tube 12, see Figure 5, remote from the flange that resides on base 26.

The Gero patent thus does not disclose a coating gas generator as set forth in Applicants' claim 1. The same is true with respect to claims 6 and 12. For example, the Gero patent is silent with

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respect to a perforated gas distribution plate through which halide gas flows as recited in claim 6. The Gero patent only discloses an end cap 26 that seals off the end of the process tube 12. The Gero patent is silent with respect to a metallic charge in the process tube 12 for reacting with a halide gas to generate a metal halide coating gas. The patent fails altogether to disclose a metallic charge including at least one of Al and a reactive metal selected from the group consisting of Hf, Zr, Y, Ce, La, and Mg.

Reconsideration of this rejection is requested.

In paragraph 3 of the office action, claims 1, 2, 6 and 12 are rejected under 35 USC 102(b) as anticipated by the Baldi US Patent 3 764 371.

Pending claim 1 is believed to distinguish over the Baldi patent. For example, the Baldi patent does not disclose a metal halide coating gas generator disposed external of a coating retort, and instead discloses chromium diffusion packs in unsealed inner retorts 51, 52, 53 disposed inside an outer coating retort 12. The burner ring components to be coated are embedded in the chromium diffusion packs in the inner retorts 51, 52, 53 followed by flushing the coating retort 12 with argon and then heating the coating retort 12 and flowing dry hydrogen to diffusion coat the burner ring components embedded in the diffusion packs in the inner retorts. The lower flange of the coating retort 12 does not include a fluid passage internal thereof for cooling the flange. The Baldi patent does not disclose a polymeric seal. Surely, the examiner will appreciate that the Baldi coating retort 12 with inner retorts 51, 52, 53 containing chromium diffusion packs having burner ring components to be coated embedded therein does not remotely resemble Applicants metal halide coating gas generator of pending claims 1, 2, 6, and 12.

Reconsideration of this rejection is requested.

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In paragraph 4 of the office action, claims 1-3, 6 and 12 are rejected under 35 USC 102(b) as anticipated by the Christensen US Patent 5 062 386.

The Christensen patent suffers from the same deficiencies as the Gero patent. Namely, the Christensen patent does not disclose a metal halide coating gas generator and instead discloses a silicon wafer epitaxial deposition reactor. No metal halide coating gas is disclosed as being generated in the Christensen epitaxial deposition reactor 11. The Christensen patent does not disclose a fluid passage in the bell jar 17 itself or in the heat reflector flange 79 itself for cooling purposes. Instead, the Christensen patent discloses a complex flange assembly 18 between the bell jar 17 and the heat reflector 78. The Christensen patent likewise does not disclose a coating gas generator having the other features set forth in pending claim 1 as well as depending claims 2-3, 6, and 12.

Reconsideration of this rejection is requested.

In paragraph 5 of the office action, claim 4 is rejected under 35 USC 103(a) in view of the Gero US Patent 5 948 300 taken with the Disclosed Art.

This rejection is believed to be in error. The examiner acknowledges that the Gero patent does not disclose an acid resistant polymeric material. The examiner should note that the Gero patent is silent regarding introducing a halide gas to react with a metallic charge to generate a metal halide coating gas in the process tube 12. Reliance on the Gero patent thus is misplaced.

Reconsideration of this rejection is requested.

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In paragraph 6 of the office action, claim 5 is rejected under 35 US 103(a) in view of the Gero US Patent 5 948 300 taken with the Tom US Patent 5 531 971.

This rejection is believed to be in error. The examiner acknowledges that the Gero patent is silent with regard to the features of claim 5. The examiner cites the Tom patent as showing fittings that the examiner proposes using in the Gero patent. However, the examiner ignores that the Gero patent teaches at column 6, lines 52-67 to form oxide films on silicon wafers. There thus is no motivation in Gero to exclude air by using the claimed fittings. The Tom patent adds nothing to the Gero patent in this regard. Reconsideration of this rejection is requested.

In paragraph 7 of the office action, claims 3-4 are rejected under 35 US 103(a) in view of the Baldi US Patent 3 764 371 taken with the Disclosed Art.

The deficiencies of the Baldi patent are described in detail above. The Baldi patent does not disclose or suggest a coating gas generator having an O-ring seal that comprises an acid resistant polymeric material as recited in claims 3-4. As mentioned above, the Baldi patent does not even disclose a metal halide coating gas generator disposed external of a coating retort, and instead discloses chromium diffusion packs in unsealed inner retorts 51, 52, 53 disposed inside an outer coating retort 12 and in which diffusion packs the burner ring components to be coated are embedded. Reconsideration of this rejection is requested.

In paragraph 8 of the office action, claim 4 is rejected under 35 US 103(a) in view of the Christensen US Patent 5 062 386 taken with the Disclosed Art. The deficiencies of the Christensen patent are described above. The Christensen patent does not disclose or suggest a coating gas generator having an O-ring seal that comprises an acid resistant polymeric material as recited in claim 4. Reconsideration of this rejection is requested.

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Applicants have added new claim 13 reciting that the metallic charge comprises a bed of metallic pellets. New claim 14 has also been added to a coating gas generator pursuant to an embodiment of the invention. These new claims are believed to be allowable. No new claim fee is due for claims 13-14.

The pending claims are believed to be in allowable condition, and action to that end is requested.

Respectfully submitted,



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enclosure: Postal card

CERTIFICATE OF MAILING

I hereby certify that this correspondence and enclosures are being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450, on January 23, 2004.



Edward J. Timmer